

Delaware Estuary Program CCMP Tracking

Goal	Strategy	Strategy Title	Performance Measures & Key Deliverables	Notes
Clean Water				
Nutrients	W1.1	Promote infrastructure-related improvements to reduce pollutants from point-sources	Innovative infrastructure and nature-based projects, tools and techniques developed	Resilience, Resilient Communities, Flooding, Green Infrastructure in Recovery, Green infrastructure in Hazard Mitigation, Stormwater
Nutrients	W1.2	Support innovative planning and design practices to reduce nutrients from stormwater and agricultural runoff through promotion, education, and implementation	Nature-based infrastructure projects/practices/workshops (riparian buffers, stormwater, agriculture, stream restoration), nutrient reductions, materials to promote nutrient-reducing BMPs	
Nutrients	W1.3	Promote land use planning by local municipalities that prevents, reduces, and/or more efficiently manages stormwater runoff to prevent pollution	Municipal assistance outcomes, technical assistance projects (municipal outreach, stormwater, planning/zoning), materials for MS4 outreach, educational signage for BMP demonstrations	
Nutrients	W1.4	Provide outreach and information to property owners to assist in reducing non-point sources of nutrients	Outreach programs and projects on nutrients (publication, newsletter, website, social media content), online blasts/hits	Non-Point Source Team Lead
Nutrients	W1.5	Conduct research and monitoring on nutrient impacts in the Delaware Estuary for biological and ecological endpoints.	Research project on nutrients, Eutrophication Model development	
Other Pollutants	W2.1	Conduct outreach and technical assistance programs to reduce non-point sources of contaminants	Outreach programs/cleanup projects/programs/projects on contaminants, cleanup activities	Non-Point Source Team Lead

EPA R2

WD - Steve Vida (SRF); Maureen Krudner (GI); Donna Somboonlakana (NPS); Bob Nyman (Resiliency, Nutrients); **ORA/SPO** - Rabi Kieber

WD - Maureen Krudner, Donna Somboonlakana, Bob Nyman

WD - Donna Somboonlakana, Mike Flood

Other Pollutants	W2.2	Promote the identification, cleanup, and revitalization of contaminated sites	Contaminated site cleanups, examples of sites with reductions	Brownfields Team Lead, Site Assessment
Other Pollutants	W2.3	Support adaptive management and reporting of pollution reductions	PCB reductions/assessments of current and emerging pollutants, management coordination projects/activities on toxics (PMPs, pollution load reductions)	Toxics Advisory Committee Rep, PCB TMDL
Other Pollutants	W2.4	Coordinate and promote research and monitoring efforts (chemical, physical, biological) associated with the causes of water quality impacts throughout the Delaware Estuary	Data and outcomes on monitoring, research projects on toxics	
Other Pollutants	W2.5	Conduct and coordinate (where appropriate) education, research, monitoring, and communication about fish and shellfish consumption to protect human health	Results on consumption advisories projects/programs, evidence of reaching key audiences, decreases in advisories/closures	
Other Pollutants	W2.6	Improve, sustain, and enhance spill communication and response with Delaware Estuary partners	Results of spill communication response projects/tools, development of inventory/other tools	
Flow	W3.1	Inform and collaborate with decision-makers and water resources managers to ensure that main-stem Delaware River flow meets the needs of the Delaware Estuary	Data/outcomes on flow management, management coordination and research projects/activities on flow needs	
Flow	W3.2	Conduct research and monitoring on water quality and habitat requirements of estuary dependent species	Research priorities identified/outcomes produced on key species, research projects on flow/salinity needs of estuary species	
Flow	W3.3	Promote water conservation and water efficiency by utilities and industrial water users	Water conservation projects/utilities, successful outcomes (information sharing, materials to promote infrastructure investment, tools for utilities' conservation efforts)	

LCRD - Terry Wesley; SEMD - Kim O'Connell
WD: Wayne Jackson (WQ), Josh Kogan (TFW); Jacqueline Rios (303d)
WD: Wayne Jackson (WQ) LSASD - Phil Cocuzza
SEMD - Doug Kodama
WD - Wayne Jackson (WQ); Katie Lynch (Flow)
WD - Janice Whitney (WaterSense); LCRD - Walter Schoepf

Flow	W3.4	Provide outreach and technical assistance to promote water conservation and infiltration by residential and commercial users and communities	Water conservation projects/programs (materials for homeowners, businesses, farmers), examples of successful outcomes	
Flow	W3.5	Promote and assist in implementing Regional Sediment Management	Regional Sediment Management projects (demonstration, research, inventory), development of registry/inventory, research/demonstration projects	
Strong Communities				
Resilience & Access	C1.1	Restore working waterfronts	Improve resilience and/or access at key locations, nature-based infrastructure projects/practices in waterfront communities	Resilience, Resilient Communities, Flooding, Green Infrastructure in Recovery, Green infrastructure in Hazard Mitigation, Stormwater
Resilience & Access	C1.2	Provide tools and technical assistance to waterfront communities and partners to improve economic and environmental resilience	Improve resilience and/or access in communities, technical assistance projects on community access and resilience, climate adaptation outreach materials, reporting on practitioners conducting outreach on climate adaptation	Resilience, Resilient Communities, Flooding, Green Infrastructure in Recovery, Green infrastructure in Hazard Mitigation, Stormwater
Resilience & Access	C1.3	Protect and enhance natural areas and public access	Improve protection and access, increase protection and access, development of access point inventory, land protection and improvement projects on natural areas/access	
Resilience & Access	C1.4	Connect people to natural areas and waterfronts in the Delaware Estuary	Ecotourism websites and visitor counts, inventory/assessment of exhibits/signage and new exhibits/displays/materials, outreach programs/projects on ecotourism/recreation	

WD - Janice Whitney; **LCRD** - Walter Schoepf

WD - Mark Reiss

WD - Maureen Krudner, Donna Somboonlakana, Bob Nyman;
ORA/SPO - Rabi Kieber

WD - Bob Nyman; **ARD** - Juan Gutierrez; **LCRD** - Walter Schoepf

Awareness & Engagement	C2.1	Through marketing and communications, build awareness and brand for the Delaware River and Bay	Outreach programs/projects (marketing and communications), distribution and exposure and examples of success (marketing campaign)	
Awareness & Engagement	C2.2	Utilize events to increase stewardship and engage new people	Event attendance (# people/events annually), reaching key audiences (via events), outreach programs/projects related to events	Earth Day (events tweeted/communicated): Environmental Justice efforts can be captured here. There are other strategies that may be more targeted, but, this can be used as a more general capture.
Awareness & Engagement	C2.3	Develop and promote programs that engage teachers and schools in stewardship of the Delaware Estuary	Outreach programs and projects (for teachers and schools), production/distribution of classroom materials and guides, creation/use of internships and outdoor classrooms/activities	
Awareness & Engagement	C2.4	Develop and promote programs with local communities and partners that foster volunteer stewardship and experiential learning	Outreach programs and projects with volunteers and citizen scientists, data/outcomes shared from volunteers, citizen scientists, etc.	
Awareness & Engagement	C2.5	Publish and share outreach materials and scientific results	Products by scientists/managers/practitioners, production and distribution of reports/publications/other literature shared on Estuary conditions, people attending/presentations given at events	
Awareness & Engagement	C2.6	Engage key stakeholders to coordinate science and management of the Estuary	Sustain/improve leveraging through engagement/coordination, management coordination meetings/meeting participants	
Awareness & Engagement	C2.7	Monitor, develop, and promote opportunities to assess impacts of outreach	Focus groups and surveys, identification and implementation of performance measures for outreach, research projects on outreach	

Healthy Habitats

WD - Peter Brandt; **PAO** - Sabina Byck
(social media)

WD - Peter Brandt; **PAO** - Jen May,
Tasha Frazier; **ORA** - Towana Joseph

LSASD - Rachael Graham

LSASD - Mindy Pensak

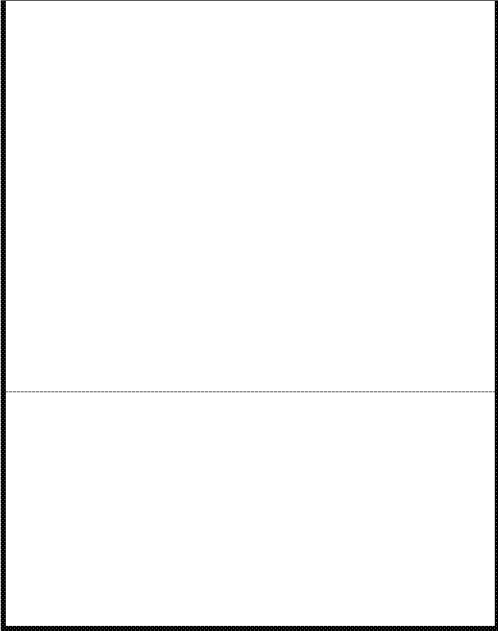
WD - Irene Purdy, Liz Butler

Wetlands	H1.1	Establish clear baselines for tidal wetland conditions and track changes over time	Monitoring and research on tidal wetlands, baseline rapid condition assessments, research reports or products on tidal wetlands, inventory maps	
Wetlands	H1.2	Restore, enhance, and manage tidal wetlands for maximum health and resilience	Data and mapping tools to identify and implement pilot projects to help restore/avert acreage loss, research/monitoring reports on implementation of nature-based tactics, restoration/management/research projects on tidal wetlands, research and monitoring to identify ways you increase wetland health and resiliency	
Wetlands	H1.3	Develop and implement natural and nature-based techniques to stabilize and restore eroding shorelines, and build and protect wetlands, infrastructure, and other key resources	Restoration projects that use nature-based methods (living shorelines), reports/products or trainings to share research and developments of nature-based tactics and decision support tools, monitoring reports to assess and translate outcomes of restoration projects	Resilience, Resilient Communities, Flooding, Green Infrastructure in Recovery, Green infrastructure in Hazard Mitigation, Stormwater
Wetlands	H1.4	Protect, enhance, and improve non-tidal wetlands	Non-tidal restoration and protection projects, outreach products for non-tidal wetlands, identification/planning of high-value non-tidal wetlands	Wetlands Permitting
Forests	H2.1	Inventory, map, and increase connectedness and resilience of forests for water quality	Inventory baseline and projects/products on forest acreage/condition, strategies for measuring connectivity between forest patches, products on change in forest acreage (and associated recommendations)	
Forests	H2.2	Promote stewardship practices by local partners for the health and sustainability of forests for water quality	Restoration/management/research projects for forests, forest landowners engaged, acres in management plans/restoration activities, maintain/increase funding for incentive programs	

WD - Marco Finocchiaro, Maureen Krudner, Donna Somboonlakana, Mike Flood, Bob Nyman; ORA/SPO - Rabi Kieber
WD - Marco Finocchiaro

Forests	H2.3	Protect and manage high-value and threatened forests for water quality	Landowner outreach forest protection projects, acres of forests into permanent protection, partnerships to encourage economic incentives/opportunities for forest stewardship	
Fish & Shellfish	H3.1	Inventory, map, protect, and enhance habitat critical for fish and crabs	Fish passage restoration projects, baseline benthic mapping of reef habitats propagation and restocking program for shad, restoration/enhancement/mapping project for fish/crab habitat	
Fish & Shellfish	H3.2	Restore oyster beds and productivity in and around Delaware Bay	Research/monitoring/management of oysters reefs, funding for shell planting (to boost oyster recruitment and productivity), restoration/management/enhancement/outreach projects for oysters, materials promoting oyster restoration and shell recycling	
Fish & Shellfish	H3.3	Inventory, restore, and manage mussel populations	Freshwater mussel surveys, research/reports/products on tactics to enhance freshwater and ribbed mussel populations and associated ecosystem services, projects that enhance freshwater mussel population and expand propagation and reseeded, projects to sustain/enhance ribbed mussel populations, other surveys/research/restoration projects related to freshwater and ribbed mussels	

Fish & Shellfish	H3.4	Protect and restore horseshoe crabs and their habitat	Surveys (with staff or volunteers) on horseshoe crabs and shorebirds, sanctuary projects, volunteer flipping activities, distribution of related educational materials, beach restoration projects (horseshoe crab spawning, shorebird foraging and nesting habitat), research and monitoring on horseshoe crab habitat needs of juveniles, other surveys/research/restoration projects on horseshoe crabs	
Fish & Shellfish	H3.5	Manage and improve populations of rare, endangered, or otherwise important native species in the Delaware Estuary	Species management programs, contingency plan for zebra mussels, identification and reduction of habitat acres impacted by invasive species, outreach on stewardship and use of native species, other species-related projects	



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